in its present state of development are not competitive with subjective forecasts issued by hurricane forecast centers, either short range or for 3 days. There is a question, however, if this is the manner in which to use numerical forecasts of this type. Perhaps they should be used as a frame of reference to be modified by subjective methods where possible. Such an approach would preclude using this type of machine forecast when some accidental event in the routine produced a trajectory that was clearly unreasonable. For example, the Daisy forecast just discussed would cause the forecaster to reexamine the situation to see if it appeared reasonable for a closed anticyclone to develop in the critical area. Examination of the initial stream function field would have revealed in this case that it was a product of balance equation solution of the initial field and not a forecast at all, so the southerly trajectory forecast would have been discarded.

A numerical forecast that would be operationally more useful could of course incorporate the knowledge used by the subjective forecasters. For example, the past motion as well as climatology could easily be included in the machine forecast to yield a combined dynamic-kinematic forecast that would take advantage of empirical knowledge that serves the human forecaster. The first steps in this direction already have been taken by the JNWP Unit. A method developed incorporates past motion into the analysis, and the hurricane forecasts for the 1959 season are expected to show the resulting improvement.

Conclusions based on such a small sample are not justified, but the various indications resulting from this analysis point to aspects of this scheme that should receive additional study.

Because the balance equation can produce minor features that do not harm the large-scale forecast but that can be disastrous to a point trajectory, some space smoothing of the stream function field is mandatory before trajectories are computed. A surface-fitting technique such as that reported in [2] may well serve this function.

The subtraction of a symmetric vortex does not always leave a smooth basic flow field because of initial irregularities in the analysis—some of which are due to inaccurate or inadequate data. It is therefore indicated that the method of vortex subtraction might be revised.

Finally it is clear that an accurate hurricane forecast depends upon an accurate forecast of the large-scale pattern, and the current status of our upper-air observations in oceanic regions limits the ability of any model to eliminate this source of error in the near future.

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CORRECTION

Vol. 87, April 1959, p. 133: In figure 4, $\Delta T/\Delta t$ should be $-0.8°$ C. at 425 mb. and $-1.2°$ C. at 475 mb.

P. 134: In figure 5, $\Delta T/\Delta t$ should be $-0.8°$ C. at 475 mb. and $-1.4°$ C. at 625 mb.